# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/981,795 | 10/19/2001 | Markus Schetelig | 1117.40738X00 | 6987 |

| | | | EXAMINER |
|---|---|---|---|
| 22907 7590 05/31/2006 | | | ZHENG, EVA Y |

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| ART UNIT | PAPER NUMBER |
|---|---|
| 2611 | |

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/981,795 | SCHETELIG ET AL. |
| | Examiner | Art Unit | |
| | Eva Yi Zheng | 2611 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on <u>15 March 2006</u>.
2a) ☐ This action is **FINAL**.  2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) <u>12-28</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>12-19 and 22-26</u> is/are rejected.
7) ☒ Claim(s) <u>20,21,27,28</u> is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All  b)☐ Some *  c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

*Request for Continued Examination*

1.      The request filed on March 15, 2006, for a Request for Continued Examination

(RCE) under 37 CFR 1.114 based on parent Application No. 09/981,795 is acceptable

and a RCE has been established. An action on the RCE follows.

## *Claim Rejections - 35 USC § 103*

2.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.      Claims 12-15, 18 and 24 are rejected under 35 U.S.C. 103(a) as being

anticipated by Ohsuge et al. (US 6,768,729) in view of Lee (US 6,055,119).

a)      Regarding to claim 12, Ohsuge et al. disclose a method for data extraction from a

data stream containing at least one data packet, comprising the steps of:

starting data extraction when the correlation value exceeds a threshold value

indicating that a data packet has been detected (13 in Fig.1; Col 4, L22-28);

storing the correlation value that exceeds a threshold value as a maximum

correlation value for use as a new threshold value (S35 in Fig.5);

continuing comparing the received bit stream with the expected bit sequence

to determine a new correlation value (as shown in Fig.5); and

restarting data extraction when the new correlation value exceeds the stored

maximum correlation value (as shown in Fig.5; Col 6, L60-Col 7, L33).

Ohsuge et al. disclose all the subject matters above except for the specific

teaching of data packet detecting by comparing a bit stream from a received digital data

stream with an expected bit sequence to determine a correlation value.

However, Lee, in the same field of endeavor, discloses a packet detector (106 in

Fig. 4) stores a reference signal and checking or comparing input signal with reference

signal for correlation value (Col 4, L36-39). It is common knowledge and well known that

a correlation value is determined by comparing two different signals. Therefore, it is

obvious to one of ordinary skill in art to combine the data packet teaching of Lee in the

CDMA receiver of Ohsuge et al.  By doing so, provide desirable signal correlation value

in a data extracting system.

b)      Regarding to claim 13, Ohsuge et al. disclose wherein the threshold value is a

programmable value (DSP; as shown in Fig.1).

c)      Regarding to claim 14, Ohsuge et al. disclose wherein the correlation

value is stored as the maximum correlation value each time data extraction is started or

restarted and the new correlation value continuously determined after starting or

restarting data extraction is compared with the stored maximum correlation value (as

shown in Fig.5).

d)      Regarding to claim 15, Ohsuge et al. disclose wherein data extracted prior to

restarting data extraction is rejected (as shown in Fig.5).

e)      Regarding to claims 18 and 24, Ohsuge et al. disclose a device for data

extraction from a data stream containing at least one data packet, comprising:

a data extraction unit for extracting data from a received data stream (13,

14,15,16, and 17 in Fig. 1; Col 4, L22-28);

a sync-control module for receiving the correlation value from the packet

detector, the sync-control module controlling the data extraction unit for starting or

restarting data extraction when the correlation value exceeds a threshold value or a

stored maximum correlation value indicating that a data packet has been detected, and

for storing the correlation value that exceeds a threshold value as maximum correlation

value for use as a new threshold value (17 in Fig.1; and as shown in Fig.5).

Ohsuge et al. disclose all the subject matters above except for the specific

teaching of data packet detecting by comparing a bit stream from a received digital data

stream with an expected bit sequence to determine a correlation value.

However, Lee, in the same field of endeavor, discloses a packet detector (106 in

Fig. 4) stores a reference signal and checking or comparing input signal with reference

signal for correlation value (Col 4, L36-39). It is common knowledge and well known that

a correlation value is determined by comparing two different signals. Therefore, it is

obvious to one of ordinary skill in art to combine the data packet teaching of Lee in the

CDMA receiver of Ohsuge et al. By doing so, provide desirable signal correlation value

in a data extracting system.

4.      Claims 16, 17, 19 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ohsuge et al. (US 6,768,729) in view of Lee (US 6,055,119), and

further in view of Gurney et al. (US 5,619,542).

a)      Regarding to claims 16, 19 and 26, Ohsuge et al. and Lee disclose all the subject

matters above except for the specific teaching of an initial timing estimator which

received the digital data stream for determining an initial estimate prior to starting data

extraction for synchronizing data extraction with data stream symbols.

        Gurney et al, in the same field of endeavor, disclose an optimal sampling and

timing estimation system, comprising symbol timing estimator (204 in Fig.2); symbol

timing decimator (202); and a selector (206).  The symbol timing decimator minimize

receiver signal's measured or estimated distortion. It also provides highest possible

signal to noise ratio in a digital receiver.  Therefore, it is obvious to one of ordinary skill

in art to combine the efficient timing estimation system by Gurney et al with the CDMA

receiver by Ohsuge et al.  By doing so, provide optimal receiver, better reception signal

quality, consume less power, and reduce production cost.

b)      Regarding to claim 17, Gurney et al disclose timing of the sampling of bits is

continuously tracked by comparing timing of symbols within an oversampled bit stream

with actual timing of the sampling of bits and correcting the timing of the sampling of bits

if a deviation between the timing of the sampling of bits and the timing of the symbols

exceeds a value (as shown in Fig. 2).

5.      Claims 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ohsuge et al. (US 6,768,729) in view of Lee (US 6,055,119), and further in view of

Applicant Admitted Prior Art (AAPA).

f)       Regarding to claims 22, 23 and 25, Ohsuge et al. disclose and Lee disclose all

the subject matters above except for the specific teaching of synchronizes the received

data stream based on the stored maximum correlation value.

However, AAPA disclose that in order to enable data extraction it has to be

performed by synchronization unit 14 (as shown in Fig. 1; [0006]). Therefore, it is

obvious to one of ordinary skill in art to combine the synchronization unit in the teaching

of AAPA with the CDMA receiver of Ohsuge et al. By doing so, perform data extraction

accurately in a CDMA system.


## Allowable Subject Matter

6.       Claims 20, 21, 27 and 28 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.


## Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eva Y Zheng whose telephone number is 571-272-

3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.  Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

<div style="text-align: right;">
Eva Yi Zheng<br>
Examiner<br>
Art Unit 2611
</div>

May 23, 2006
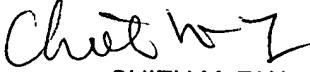
CHIEH M. FAN
SUPERVISORY PATENT EXAMINER